(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 17 February 2005 (17.02.2005)

PCT

(10) International Publication Number WO 2005/013709 A1

(51) International Patent Classification7: A23J 1/20 A23C 19/05,

(21) International Application Number:

PCT/NZ2004/000176

- (22) International Filing Date: 6 August 2004 (06.08.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 527434

7 August 2003 (07.08.2003) NZ

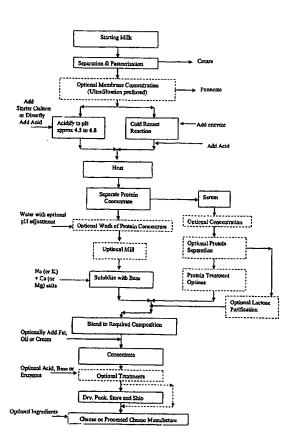
- (71) Applicant (for all designated States except US): FONTERRA CO-OPERATIVE GROUP LIMITED [NZ/NZ]; 9 Princes Street, Auckland (NZ).
- (72) Inventors; and
- (75) Inventors Applicants (for US only): WILES, Peter, Gilbert [NZ/NZ]; Fonterra Research Centre Limited,

Dairy Farm Road, Palmerston North (NZ). ELSTON, Peter, Dudley [NZ/NZ]; Fonterra Research Centre Limited, Dairy Farm Road, Palmerston North (NZ).

- (74) Agents: CALHOUN, Douglas, C et al.; A J Park, 6th Floor Huddart Parker Building, Post Office Square, P O Box 949, Wellington, 6015 (NZ).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: PRODUCTION OF PROTEIN COMPOSITION FROM A DAIRY STREAM AND ITS USE AS AN INGREDIENT IN THE MANUFACTURE OF A CHEESE



(57) Abstract: The invention described is a process for manufacturing a dairy ingredient particularly suited for use in cheese manufacture. The process involves treating a dairy stream under conditions to form a protein concentrate and serum. The stream may optionally be split and different conditions/reactants used in each separate stream to modify the entrained proteins before the separate streams are recombined. The protein concentrate is solublised before being recombined with the serum. The mono-di-valent cation content of the protein concentrate may be adjusted as the protein concentrate is solublised. The ingredient produced can be used in the manufacture of cheese products.

WO 2005/013709 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.